

COST ANALYSIS

Preliminary cost estimates for the identified alternatives were developed including capital, operation and maintenance (O&M) costs. The costs consider financing the initial project capital costs, including assumptions about potential funding sources, and annual operations and maintenance expenses. Projected annual costs were divided by the projected annual benefits to obtain unit costs for each alternative. The range of costs was \$1.17 to \$3.60 per thousand gallons. The average cost for the alternatives is approximately \$0.76 per thousand gallons. These costs were based on FDEP's State Revolving Fund (SRF) loan structures and assumed no grant funding. These cost estimates include estimated construction costs for the various wells, pumping stations and pipelines that make up the projects, including engineering and contingencies. The cost summary is included in Table 24.

To estimate the debt service for each project the following assumptions and considerations were used:

- The initial project costs will be financed over a twenty (20) year period at a rate of 3.5%;
- The cost to be financed includes administrative fees equal to two percent (2%) of the initial project capital costs as required by the terms and conditions of the SRF Loan Program;
- The cost to be financed includes funding of a loan repayment reserve equal to three percent (3%) of the initial project capital costs being borrowed as required by the terms and conditions of the SRF Loan Program, and
- The cost to be financed includes thirty-six (36) months of capitalized interest based upon construction funding draws during the assumed project engineering and construction period.
- Total capital costs for each subregion include debt service and an allowance for debt service coverage equal to 25% of the annual debt service.
- The allowance for debt service coverage is based upon the SRF Loan Program's minimum debt service coverage requirement of 15% adjusted upward to also reflect the need for funding capital renewals and replacements that may occur during the term of the loan agreement.

The annual operations and maintenance costs for each alternative included:

- The cost of electricity for pumping;
- General maintenance of the facilities;
- Submersible pump maintenance;
- Adjustment of injection rates and measurement of water quality;
- Weekly water sample procurement for laboratory analysis;
- Semiannual calibration of flowmeters and gauges;
- Preparation of monthly regulatory reports; and
- Cost for chemicals, pretreatment, and filtration prior to injection.

The annual operations and maintenance costs were added to the annual capital-related financing costs to estimate the total costs for each project and subregion. The cost per thousand gallons for each subregion was divided by the total annual production of each alternative to obtain unit costs. It was assumed alternatives would serve provide an irrigation water benefit for only 180 days per year.

It is important to note preexisting deficiencies at the treatment plants considered in this study were not included in the analysis. It was assumed all plants would be providing the appropriate treatment to meet primary and secondary standards.

TABLE 24

Cost Analysis

Name	Type	Number of Wells	Wells	Pumping Station	Intake System Const. Cost	Land Acquisition Cost	Pipelines	Engineering, Administrative and Legal	Estimated Pilot Project Cost	Total	Annual Operations and Maintenance	Estimated Benefit MGD
1. Ten Mile Canal-Pump Station	Surface Water ASR			\$ 1,550,000	\$1,700,000			\$650,000		\$ 4,875,000		
1. Ten Mile Canal-Wells		17	\$ 9,350,000			\$850,000	\$25,500	\$1,875,100	\$ 1,850,000	\$ 17,438,250		
1. Ten Mile Canal-Transmission Lines							\$1,560,000	\$312,000		\$ 2,340,000		
1. Ten Mile Canal			\$ 9,350,000	\$ 1,550,000	\$ 1,700,000	\$ 850,000	\$ 1,585,500	\$ 2,837,100	\$ 1,850,000	\$24,853,250	\$504,000	12.0
2. Fiesta Village/Ft.Myers Beach-Pump Station	Reclaimed Water ASR			\$ 1,200,000				\$240,000		\$ 1,800,000		
2. Fiesta Village/Ft.Myers Beach-Well		12	\$ 6,600,000			\$600,000	\$18,000	\$1,323,600	\$ 1,400,000	\$ 12,427,000		
2. Fiesta Village/Ft.Myers Beach -Transmission Lines								\$0		\$ -		
2. Fiesta Village/Ft.Myers Beach			\$ 6,600,000	\$ 1,200,000	\$ -	\$ 600,000	\$ 18,000	\$ 1,563,600	\$ 1,400,000	\$14,227,000	\$340,200	8.1
3. Fort Myers Central-Pump Station	Reclaimed Water ASR			\$ 1,700,000				\$340,000		\$ 2,550,000		
3. Fort Myers Central-Well		13	\$ 7,150,000			\$650,000	\$19,500	\$1,433,900	\$ 1,400,000	\$ 13,316,750		
3. Fort Myers Central- Transmission Lines							\$72,000	\$14,400		\$ 108,000		
3. Fort Myers Central			\$ 7,150,000	\$ 1,700,000	\$ -	\$ 650,000	\$ 91,500	\$ 1,788,300	\$ 1,400,000	\$15,974,750	\$369,600	8.6
4. Gateway-Pump Station	Reclaimed Water ASR			\$ 250,000				\$50,000		\$ 375,000		
4. Gateway-Well		2	\$ 1,100,000			\$100,000	\$3,000	\$220,600	\$ 1,400,000	\$ 3,529,500		
4. Gateway - Transmission Lines							\$1,588,280	\$317,656		\$ 2,382,420		
4. Gateway			\$ 1,100,000	\$ 250,000	\$ -	\$ 100,000	\$ 1,591,280	\$ 588,256	\$ 1,400,000	\$6,286,920	\$42,000	1.0
5. Lehigh Acres-Pump Station	Reclaimed Water ASR			\$ 680,000				\$136,000		\$ 1,020,000		
5. Lehigh Acres-Well		7	\$ 3,850,000			\$350,000	\$10,500	\$772,100	\$ 1,400,000	\$ 7,978,250		
5. Lehigh Acres-Transmission Lines							\$2,784,000	\$556,800		\$ 4,176,000		
5. Lehigh Acres			\$ 3,850,000	\$ 680,000	\$ -	\$ 350,000	\$ 2,794,500	\$ 1,484,900	\$ 1,400,000	\$13,174,250	\$205,800	4.9
6. Three Oaks-Pump Station	Reclaimed Water ASR			\$ 600,000				\$120,000		\$ 900,000		
6. Three Oaks-Well		5	\$ 2,750,000			\$250,000	\$7,500	\$551,500	\$ 1,400,000	\$ 6,198,750		
6. Three Oaks-Transmission Lines							\$268,800	\$53,760		\$ 403,200		
6. Three Oaks			\$ 2,750,000	\$ 600,000	\$ -	\$ 250,000	\$ 276,300	\$ 725,260	\$ 1,400,000	\$7,501,950	\$138,800	3.3
7. Fiesta Village-Pump Station	Reclaimed Water ASR			\$ 670,000				\$135,800		\$ 1,007,250		
7. Fiesta Village-Well			\$ 3,300,000			\$300,000	\$9,000	\$666,758	\$ 1,400,000	\$ 7,094,698		
7. Fiesta Village-Transmission Lines		6					\$33,792	\$8,558		\$ 52,938		
7. Fiesta Village			\$ 3,300,000	\$ 670,000	\$ -	\$ 300,000	\$ 42,792	\$ 811,117	\$ 1,400,000	\$ 8,154,886	\$163,800	3.9
8. Fort Myers Beach-Pump Station	Reclaimed Water ASR			\$ 810,000				\$163,800		\$ 1,217,250		
8. Fort Myers Beach-Well			\$ 3,300,000			\$300,000	\$9,000	\$667,603	\$ 1,400,000	\$ 7,095,754		
8. Fort Myers Beach-Transmission Lines		6					\$ 38,016	\$9,403		\$ 59,274		
8. Fort Myers Beach			\$ 3,300,000	\$ 810,000	\$ -	\$ 300,000	\$ 47,016	\$ 840,806	\$ 1,400,000	\$ 8,372,278	\$178,400	4.2
9. Fort Myers South-Pump Station	Reclaimed Water ASR			\$ 1,100,000				\$223,600		\$ 1,654,500		
9. Fort Myers South-Well		12	\$ 6,600,000			\$600,000	\$18,000	\$1,362,240		\$ 10,725,300		
9. Fort Myers South-Transmission Lines							\$ 211,200	\$45,840	\$ 1,400,000	\$ 2,071,300		
9. Fort Myers South			\$ 6,600,000	\$ 1,100,000	\$ -	\$ 600,000	\$ 229,200	\$ 1,631,680	\$ 1,400,000	\$14,451,100	\$327,600	7.6
10. City of Fort Myers Transmission	Reclaimed Water									\$ 17,072,141		18.6
10. City of Fort Myers Reclaimed Transmission			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,072,141	\$697,200	18.6
11. Corkscrew Rd. to Williams Rd.	Reclaimed Water						\$ 196,800	\$39,360		\$ 295,200		0.3
11. Corkscrew Rd. to Williams Rd.			\$ -	\$ -	\$ -	\$ -	\$ 198,800	\$ 39,360	\$ -	\$285,200	\$12,600	0.3
TOTAL		80	\$ 44,000,000	\$ 8,580,000	\$ 1,700,000	\$ 4,000,000	\$ 6,872,888	\$ 12,290,379	\$ 13,050,000	\$ 130,163,725	\$ 2,977,800	71

Notes:

Wells: \$550,000 per well

Pump Station Cost: Derived from Construct. Cost of Service Water P.S. figure 29-6 from the Pumping Station Handbook.

Intake cost: For the first 5 MGD the cost is \$1M. For additional cost greater than 5 MGD the cost is \$ 100k per MGD.

Land Acquisition Cost \$50,000/well. 500 ft well separation minimum

Pipelines: Well Pipelines: \$1500/well. Transmission Lines: \$4/diameter per linear feet.

Engineering = 20% of capital cost. Doesn't include the land cost.

Pilot: \$1.85M for surface water. \$1.4M for reclaimed water.

Total has a contingency of 25%

O & M for Surface ASR = 0.14 cents/1000 gals X10 months X 30 days/month